

### **REMARKS**

Claims 11, 12, 14, and 24-26 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

### **REJECTION UNDER 35 U.S.C. § 112**

Claims 11-12, 14-15, and 17 stand rejected under 35 U.S.C. § 112, first paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed.

The Examiner alleges that the specification does not sufficiently teach a device that comprises the combination of the molecule recognizing film formed on and between the electrodes or a device that comprises the molecule recognizing film formed only between the electrodes. Claim 11 has been amended to call for an electro-conductive polymer deposited on and between the pair of electrodes, and claim 15 has been cancelled. The subject matter of claim 11 is described by the specification as filed and particularly in the drawings. For example, as shown in Figure 2, it can be seen that the electroconductive polymer 12 is formed *on and between* the microelectrodes 13.

Further, the specification explains that the electro-conductive polymer absorbs molecules to change an electric resistance or current, so the electro-conductive polymer should maintain electrical contact with the electrodes. If the electro-conductive polymer was formed only on the electrodes, it would be in an electrically floating state and could

not allow the flow of any current. The electro-conductive polymer, therefore, needs to be deposited on and between the electrodes. One skilled in the art would readily acknowledge, appreciate, and understand this aspect of the claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

#### **REJECTION UNDER 35 U.S.C. § 102**

Claims 11-12, 14-15, and 17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Cozzette, et al. (U.S. Pat. No. 5,200,051). This rejection is respectfully traversed.

Claim 11 has been amended to call for a substrate and resistance sensors formed on the substrate. Each of the resistance sensors comprises a pair of electrodes and an electro-conductive polymer deposited on and between the pair of electrodes, wherein the electro-conductive polymer absorbs aromatic molecules and changes an electrical resistance by absorbing the aromatic molecules inside the electro-conducting polymer. Claim 11 has also been amended to call for a transducer circuit for transducing the change in the electrical resistance of the electro-conductive polymer into an electric signal. Each of the transducer circuits comprises a source of electric current electrically connected to the resistance sensor, a source of an offset voltage, a differential amplifier electrically connected to the resistance sensor that outputs a difference between a voltage provided with the resistance sensor and the offset voltage, and a high-gain amplifier that amplifies a voltage output from the differential output. The source of electric current, the source of the offset voltage, the differential amplifier, and the high-gain amplifier each comprise thin-film transistors, and the electro-conductive

polymer includes at least one of polypyrrol, polymethylpyrrol, polythiophen, polymethylthiophen, polyaniline, and polyphenylene vinylene. Cozzette does not anticipate such a sensor device. That is, Cozzette does not anticipate the claimed sensor device with the claimed transducer circuit. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 11 stands rejected under 35 U.S.C. 102(b) as being anticipated by both Ribí et al. (U.S. Pat. No. 5,491,097) and Heller et al. (U.S. Pat. No. 5,605,662). These rejections are respectfully traversed.

As stated above, claim 11 has been amended. Neither Ribí nor Heller anticipate the claimed sensor device with the claimed transducer circuit. As such, reconsideration and withdrawal of this rejection is respectfully requested.

#### **REJECTION UNDER 35 U.S.C. § 103**

Claims 11-12, 14-15, and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Heller et al. (U.S. Pat. No. 5,605,662) and Johnson (U.S. Pat. No. 4,216,245). This rejection is respectfully traversed.

The Examiner alleges that it would have been obvious to modify the device of Heller by including the technique of printing the organic thin film onto the electrode as taught by Johnson for the advantage of providing a rapid method of applying the organic film to the electrode in a manner which prevents interaction. As stated above, however, Heller does not anticipate the claimed sensor device with the claimed transducer circuit. As such, the proposed modification of Heller with the teachings of Johnson still does not yield the claimed invention. The claimed invention, therefore, is not obvious in view of

Heller and Johnson. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**NEW CLAIMS**

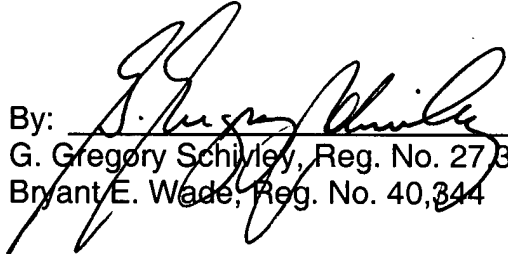
New claims 24-26 have been added. These claims are fully supported by the specification and drawings as originally filed. No new matter has been added. Further, these claims are neither anticipated nor obvious in view of the cited prior art references and, therefore, should be in condition for allowance. Favorable consideration of these new claims is respectfully requested.

## CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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